

**REMARKS**

Claims 1, 5-7, 10, 12-21, 24, 26-27, 29-30, 32 and 36-49 are pending in the application. Claims 1 and 36 are the independent claims. Claims 2-4, 8-9, 11, 22-23, 25, 28, 31 and 33-35 have been canceled without prejudice or waiver to the underlying subject matter.

**Statement of Substance of Interview**

Applicant expresses his sincere appreciation to Examiners Alpert and Patel for the courtesies extended at the personal interview on November 3, 2005, and provides this Statement of Substance of Interview in compliance with M.P.E.P. 713.04:

- (A) Exhibits. No exhibit / demonstration was shown / conducted.
- (B) Claims. The independent claims were discussed.
- (C) Prior art. Madoff (U.S. Patent Appl'n Publ'n No. US 2001/0044767 A1) was discussed.
- (D) Amendments. Examiners Alpert and Patel requested that Applicant amend the claims to more clearly recite the invention to the Office.
- (E) Principal arguments by Applicant. The claims are not indefinite, and are not anticipated nor suggested by Madoff for at least the reasons described below in this response.
- (F) Other matters. No other pertinent matters were discussed.
- (G) Outcome. Although Applicant traversed the pending rejections and the need to amend the claims, in order to expedite allowance Applicant nonetheless agreed to comply with Examiner Alpert and Patel's request to amend the claims to more clearly recite the invention to the Office.

**The Claims Are Not Indefinite**

**1<sup>st</sup> Rejection Under 35 U.S.C. § 112, Second Paragraph**

The Office has rejected claims 1-35 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as follows:

The examiner apologizes for placing the wrong portion of the statute in the action. For the record, the following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language in the claims 1 and 35 comprising,

completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value, has not been amended, and remains a conditional statement wherein one branch of the condition remains unaccounted for. Specifically, the claims do not address the situation wherein the accepted price is not at least the predetermined distance and direction away. What happens to the order when that situation occurs? Does the order go back in the queue for further attempts at matching? Is the order removed from the queue and order book? Appropriate correction is required.

Applicant respectfully traverses this rejection for at least the reason that the Office has not provided a prima facie case supporting why the claim language does not satisfy the statutory requirement of U.S.C. § 112, second paragraph. On the contrary, the Office's statements appear directed solely to the improper purpose under this rejection of requiring additional limitations to narrow the scope of the recited language. Applicant notes that "[t]he examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available." See M.P.E.P. 2173.02.

Independent claim 1 recites "completing the order only if the accepted price is at least the predetermined distance below the updated market value". Independent claim 36 recites

“completing the order only if the accepted price is at least the predetermined distance above the updated market value”. The recited language in these claims is clear and precise on its face, a fact implicitly supported by the Office since the action only addresses situations that are outside the scope of claims 1 and 36.

Accordingly, Applicant submits that the claim language of the independent claims (claims 1 and 36) possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section beyond that which Applicant has chosen to recite. Furthermore, as each of the dependent claims depend from and further limit claims 1 or 36, Applicant respectfully submits that for at least the same reason as above the dependent claims also possess the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section beyond that which Applicant has chosen to recite. For at least these reasons, Applicant respectfully requests that this rejection be withdrawn.

To address the Office's specific questions for the sake of completeness, Applicant directs the Office to the description of particular embodiments of the invention in Applicant's specification: for example, paragraph 57 states “[i]f the execution conditions are not satisfied the order is cancelled.”, and paragraph 58 states, “orders may not be completed, and users may not be notified of order acceptance and completion, until any and all associated activation and execution conditions are satisfied.”

**2<sup>nd</sup> Rejection Under 35 U.S.C. § 112, Second Paragraph**

The Office has rejected claims 1-35 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as follows:

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language in the claims 1 and 35 comprising,  
receiving from a first party an order to trade a financial instrument at a predetermined distance and predetermined direction away from a market value of the financial instrument;

can easily be interpreted a pure limit order. To demonstrate this please consider the PhD dissertation of Patrick Conroy entitled, "Limit Orders Versus Market Orders: Theory and Evidence," which was published in 1997:

Investors seek to maximize profits based on future expectations about share prices. The choice they face is to sell (buy) a quantity of stock at the market price or to set a "limit" price above (below) the market price to buy that same quantity of stock within a certain time period.

Applicant's system seems to receive a limit order, and then ask if the limit price is the same distance away from an updated market value, as the limit price was away from the original market value. In this scenario, the condition always fails unless the market value doesn't change, which is rare. The language in the claim is unclear, and appropriate correction is required.

Applicant respectfully traverses this rejection for at least the reason that the Office has not provided a prima facie case supporting why the claim language does not satisfy the statutory requirement of U.S.C. § 112, second paragraph. The Office has not provided a prima facie case in part because its premise is based on a characterization of the claimed invention that is contrary to the claim language.

In particular, the Office bases its rejection on the premise that a method of the claimed invention checks to see if a "price is the *same* distance away from an updated market value" (emphasis added). However, to the contrary, independent claim 1 recites "completing the order only if the accepted price is *at least* the predetermined distance below the updated market value" (emphasis added), and independent claim 36 recites "completing the order only if the accepted price is *at least* the predetermined distance above the updated market value" (emphasis added). This distinction means that the condition will only fail if the updated market value has changed so that the accepted price is less than the predetermined distance away from the updated market value.

Accordingly, Applicant submits that the claim language of the independent claims (claims 1 and 36) possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section beyond that which Applicant has chosen to recite. Furthermore, as each of the dependent claims depend from and further limit claims 1 or 36, Applicant respectfully submits that for at least the same reason as

above the dependent claims also possess the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section beyond that which Applicant has chosen to recite. For at least these reasons, Applicant respectfully requests that this rejection be withdrawn.

**3<sup>rd</sup> Rejection Under 35 U.S.C. § 112, Second Paragraph**

The Office has rejected claims 1-35 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as follows:

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, applicant's use of the terms "market value" in claims 1 and 35 is unclear. Market value is not a fixed value, but at any time, varies from person to person. In a transaction for the sale of goods or services, the market value of the goods or service that is the subject matter of sale is exactly what is paid for those goods or services.

Applicant respectfully disagrees with the Office pertaining to this rejection, but in order to expedite allowance Applicant nonetheless has amended the claims to more clearly recite the invention to the Office. In particular, the claims have been amended to establish that the market value be based on an established market value indicator, such as the NBBO.

Thus, Applicant submits that the pending claim language possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and requests that this rejection be withdrawn.

**The Claims Are Not Anticipated by Madoff**

The Office has rejected claims 1-5, 7-9, 12, 15-17, 26 and 34-35 under 35 U.S.C. § 102 as being anticipated by Madoff (U.S. Patent Appl'n Publ'n No. US 2001/0044767 A1). Applicant respectfully disagrees with the Office pertaining to this rejection, but in order to expedite allowance Applicant nonetheless has amended the claims to more clearly recite the

invention to the Office. Thus, Applicant respectfully submits that each pending claim is patentably distinguishable over Madoff.

In order for a claim to be anticipated under 35 U.S.C. § 102, the reference must disclose, either expressly or inherently, each and every element as set forth in the claim. M.P.E.P. § 2131. Such anticipation does not occur in the instant application, however, because Madoff fails to disclose each and every element as set forth in the pending claims for at least the following reasons.

***Madoff Does Not Teach or Suggest Receiving an Order To Trade Away From a Market Value of a Financial Instrument***

Independent claim 1 recites, in part, “receiving . . . a buy order to trade a financial instrument at a predetermined distance below a market value of the financial instrument.” Independent claim 36 recites, in part, “receiving . . . a sell order to trade a financial instrument at a predetermined distance above a market value of the financial instrument.” Madoff neither teaches nor suggests such limitations.

Accordingly, for at least this reason, Madoff does not anticipate independent claims 1 or 36. Furthermore, as each of the dependent claims depend from and further limit claims 1 or 36, Applicant respectfully submits that for at least the same reason as above the dependent claims are also not anticipated by Madoff under 35 U.S.C. § 102.

***Madoff Does Not Teach or Suggest Completing an Order Only If an Accepted Price is at least a Predetermined Distance and Direction Away From an Updated Market Value***

Independent claim 1 recites, in part, “completing the order only if the accepted price is at least the predetermined distance below the updated market value.” Independent claim 36 recites, in part, “completing the order only if the accepted price is at least the predetermined distance above the updated market value.” Madoff neither teaches nor suggests such limitations.

Accordingly, for at least this reason, Madoff does not anticipate independent claims 1 or 36. Furthermore, as each of the dependent claims depend from and further limit claims 1 or 36,

Applicant respectfully submits that for at least the same reason as above the dependent claims are also not anticipated by Madoff under 35 U.S.C. § 102.

**The Claims Are Non-Obvious Over Madoff**

The action rejects dependent claims 6, 10-11, 13-14, 18-25 and 27- 33 under 35 U.S.C. 103(a) as being unpatentable over Madoff. Applicant respectfully disagrees with the Office pertaining to this rejection, but in order to expedite allowance Applicant nonetheless has amended the claims to more clearly recite the invention to the Office. Thus, Applicant respectfully submits that each pending claim is patentably distinguishable over Madoff.

Applicant respectfully submits that the action does not establish a *prima facie* case of obviousness, because the suggestions or motivations provided by the action do not cure the deficiencies of Madoff (the 35 U.S.C. § 102 art) as explained above.

Additionally, in connection with the rejection of claims 10-14, 18-22, 23-25 & 27-33, the Office states that certain claim elements are considered as admitted prior art. While Applicant appreciates the Office's efforts to promote compact prosecution, Applicant respectfully traverses, on equitable grounds, the requirement that any non-traversed factual determination or legal conclusion of the Office, whether expressly stated or implied, be deemed an admission. Applicant provides arguments that are believed to be sufficient to overcome the pending rejections. Should any argument provided by Applicant not succeed in overcoming a pending rejection, Applicant reserves the right to raise any further argument at a later time. Notwithstanding the aforementioned, in the instant case the Office has no basis to deem any claim element as admitted prior art because Applicant's prior arguments compelled the Office to withdraw the prior rejections applied to these claims.

Accordingly, Applicant submits that all of the pending claims, independent and dependent, are non-obvious over Madoff under 35 U.S.C. § 103.

**Applicant's Application In The Simplest Terms:**

**Large Order Efficiency Problem:** Current market structure in the world's financial markets provides efficiency to the smallest trading lots (e.g. 100 share lots in U.S. equities) but does not provide efficiency in trading large lots (e.g. 10,000 share lots in U.S. equities).

**Goal and Motive:** Build a trading system that provides an efficient method to price and trade any size of order at any time in a "stable" (para 61 Applicant's application) market. Allow traders to make offers to buy or sell for a new purpose. Example: *"I will buy that large order of yours at the current bid price but you will have to pay me an additional 10 cents to cover the risk. If I buy it from you I need to be guaranteed that the market will be 'stable' when we trade. After I buy it from you I will sell it to the market over the next two weeks and hope to make a 5 cent profit."*

The first party thinks to himself, *"if I send it to a specialist at the NYSE it probably will probably cost me 15 cents away from the current market value, I better grab that order offered by that dealer at a cost savings of 5 cents."*

In this example the inventor hypothesizes that large orders of financial instruments at any given "moment in time" have four values:

1. Current Market Value –"NBBO"
2. Short Term Value, if the order is immediately liquidated e.g. a market order given to broker. The final average execution price
3. Long Term Value is the estimated average execution price if the position is liquidated over a longer time period, e.g. two week period.
4. Opportunity Value is the price that can be offered between the Short and Long Term Values.

These values can be graphed by way of supply and demand curves. See figure 2 of applicant's specification.



The patent application attempts to create a trading method that allows traders to trade along this "Trading Opportunity Curve."

The only way to trade on this "Trading Opportunity Curve" is to invent a new type of transaction; A transaction that guarantees the liquidity provider (the party that posts an order and waits for a contra) that if his order executes it will execute away from the NBBO and not participate in a market "sweep."

All executions in today's markets occur at current market value even if the executions occur at prices outside the NBBO because liquidity providers that place limit orders above or below the NBBO are disadvantaged against the liquidity takers. Simply because the liquidity taker not only can pick off the liquidity provider's limit order but also can simultaneously route other orders in pursuit of better priced third party orders. In other words if an order is above or below the NBBO even if it could be pegged at a price distance from the NBBO or simply fixed priced limit order and it executes without any guarantee, the liquidity provider simply gets a current market value for his execution.

### **Madoff (Cited Reference) In Simple Terms:**

Madoff is an automated auction with two types of orders and one matching process:

Two Types of Order Entry:

1. The first type of order is "dormant and unseen" to its trading participants. This order is a "bid" from the "crowd" of participants in the system.
2. The second type of order is the item being auctioned which can be displayed as shares and symbol with no displayed price to the "crowd."

Matching Process

1. During an auction members of the crowd make bids, the system's matching process identifies the highest bidder during an auction. The matching process is an automated matching algorithm which will only make matches within the NBBO and rejects any orders priced outside NBBO.

## 5 LIMITATIONS IN NON-AMENDED MAIN CLAIM OF INVENTION NOT CONTAINED IN MADOFF

As stated above, Applicant respectfully disagrees with the Office's rejections but has nonetheless amended the claims to more clearly recite the invention to the Office in order to expedite allowance. For the sake of completeness, however, Applicant provides the below arguments to support Applicant's disagreement with the Office's rejections as they correspond to the claims as they stood prior to the current amendments. These arguments establish that the current amendments are made only to more clearly recite the invention to the Office, and not for any reason related to the statutory requirements for a patent.

Main Claim:

1. A computer-implemented method for trading **above or below (1)** the market, comprising:  
  
receiving from a first party an order to trade a financial instrument at a predetermined distance and predetermined direction away from a market value of the financial instrument;  
  
upon **acceptance of the order (2)** by a second party at a **particular price (3)**, **determining an updated market value (4)** of the financial instrument; and  
  
**completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value (5).**

1. "above or below" Madoff will not validate orders above or below the market. Trading above or below the market is not possible in the Madoff auction process and is completely contrary to the object of the Madoff invention. The main object of the Madoff invention is to allow the market making community first dibs on the order flow of "market orders" from other market makers in the Madoff trading system, before these "market orders" are worked in the public markets by their assigned market makers. The main object of the applicant's invention is trade between the long and short term liquidity curves that occur above and below market value. The objects of the inventions are not related in any way.

2. "acceptance of the order " Madoff does not have an acceptance of the order but rather matches orders automatically. In Madoff, orders are matched using an automated matching algorithm that chooses a hidden bid out of a potentially several hidden bids to match with an incoming order. Users of Madoff can not choose hidden bids individually. Since the bids are hidden, they cannot be viewed by participants of the Madoff system. In Madoff the liquidity taker agrees to trade at the best price available for the opportunity to obtain price improvement. In the applicant's invention, the liquidity taker agrees to accept a less than best price for opportunity to obtain a larger sized order. The acceptance for of the applicant's invention is not related to the automated matching process of Madoff.

Bids are hidden in Madoff. There may be no bids at all when an order is presented for auctioning. There is no acceptance in Madoff. In the applicant's invention, a firm offer and its exact price is made to the second party. In Madoff an acceptance cannot be made because offers cannot be identified. There are no firm displayed offers in Madoff.

If it can be argued that Madoff has an acceptance, it is a one sided acceptance with the trading system itself and not an agreement with an individual party. A Madoff user agrees for a chance to trade at the user's price or a better price within the NBBO to anybody in the crowd. In applicant's invention, acceptances are based on agreements between individual users at a price that is outside the NBBO.

3. "particular price" In Madoff none of the bid prices are known to the second party. Applicant's invention discloses price to both the first and second parties. Second party in

Madoff does not agree on a specific price. The final price of the trade is determined by the best hidden bid of the first party and not the second party in Madoff. Second party simply hopes for a fill at or inside the NBBO. Nothing is guaranteed to the second party; second party doesn't even know if there are any first party bids when he routes an order to the Madoff trading system.

4. "determining an updated value" In Madoff the NBBO is validated at the exact time of the match. There is no "update" step in Madoff to insure a stable market after the match.

5. "completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value" Madoff has no such execution condition. It is inherent in the Madoff trading system that executions are based on the initial matching of the orders based on "current" bid or ask prices at the time of the match. An execution in the applicant's invention does not occur on the initial matching of the orders. It only happens in a second step after a new market value has been determined by a "scanning the market" process. This checking step is to insure the first party that the second party or anyone else has not conducted any simultaneous trades at the exact time of the initial matching of the orders.

#### **Response to "PREVIOUS REJECTIONS – 35 USC § 112"**

The Office has rejected claims 1-35 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention as follows:

The examiner apologizes for placing the wrong portion of the statute in the action. For the record, the following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language in the claims 1 and 35 comprising,

completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value, has not been amended, and remains a conditional statement wherein one branch of the condition remains unaccounted for. Specifically, the claims do not address the situation wherein the accepted price is not at least the predetermined distance and direction away. What happens to the order when that situation occurs? Does the order go back in the queue for further attempts at matching? Is the order removed from the queue and order book? Appropriate correction is required.

Applicant respectfully traverses this rejection for at least the reason that the Office has not provided a prima facie case supporting why the claim language does not satisfy the statutory requirement of U.S.C. § 112, second paragraph. On the contrary, the Office's comments appear directed solely to the improper purpose under this rejection of requiring additional limitations to narrow the scope of the recited language. Applicant notes that "[t]he examiner's focus during examination of claims for compliance with the requirement for definiteness of 35 U.S.C. 112, second paragraph, is whether the claim meets the threshold requirements of clarity and precision, not whether more suitable language or modes of expression are available." See M.P.E.P. 2173.02.

Independent claims 1 recites "completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value". The remaining independent claims (34 and 35) recite similar language. The recited language in these claims is clear and precise on its face, a fact implicitly supported by the Office since the action only addresses situations that are outside the scope of the independent claims.

Accordingly, Applicant submits that the claim language possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section beyond that which Applicant has chosen to recite.

To address the Office's specific questions for the sake of completeness, Applicant directs the Office to the description of particular embodiments of the invention in Applicant's specification: for example, paragraph 57 states "*[i]f the execution conditions are not satisfied the order is cancelled.*", and paragraph 58 states, "*orders may not be completed, and users may not*

*be notified of order acceptance and completion, until any and all associated activation and execution conditions are satisfied."*

**Response to "NEW GROUNDS OF REJECTION #1 – 35 USC § 112"**

The Office added the following rejection under 35 U.S.C. § 112, second paragraph:

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language in the claims 1 and 35 comprising,

receiving from a first party an order to trade a financial instrument at a predetermined distance and predetermined direction away from a market value of the financial instrument;

can easily be interpreted a pure limit order. To demonstrate this please consider the PhD dissertation of Patrick Conroy entitled, "Limit Orders Versus Market Orders: Theory and Evidence," which was published in 1997:

Investors seek to maximize profits based on future expectations about share prices. The choice they face is to sell (buy) a quantity of stock at the market price or to set a "limit" price above (below) the market price to buy that same quantity of stock within a certain time period.

Applicant respectfully disagrees with Office and traverses this rejection for at least the following reasons. The limit order as described by Conroy can only trade if the market value equals the limit price of the limit order at some future date and time, and the market price may never equal the limit price of the limit order, which would result in the limit order never executing. The invention trading method occurs in the "present time" allowing for an execution to occur at a minimum predetermined price distance away from market value. Conroy is based on executions at a future time and at market value.

The rejection further states:

Applicant's system seems to receive a limit order, and then ask if the limit price is the same distance away from an updated market value, as the limit price was away from the original market value. In this scenario, the condition always fails unless the market value doesn't change, which is rare. The language in the claim is unclear, and appropriate correction is required.

Applicant respectfully disagrees with the Office and traverses this rejection for at least the following reasons. The Office refers to “the same distance away,” but the claim reads “*at least* the predetermined distance and direction away.” This distinction means that the condition will only fail if the updated market value has changed so that the price is less than the predetermined distance away.

Thus, Applicant submits that the claim language possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section.

**Response to “NEW GROUNDS OF REJECTION #2 – 35 USC § 112”**

The Office added the following rejection under 35 U.S.C. § 112, second paragraph:

Claim 1-35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, applicant's use of the terms “market value” in claims 1 and 35 is unclear. Market value is not a fixed value, but at any time, varies from person to person. In a transaction for the sale of goods or services, the market value of the goods or service that is the subject matter of sale is exactly what is paid for those goods or services.

Applicant respectfully disagrees with Office and traverses this rejection for at least the following reasons. Applicant respectfully submits that market value for financial instruments is well known in the art and clearly defined in the specification. For example, paragraph 45 of applicant's specification recites specific market criteria for calculating market value: “*This market criteria includes the bid, ask, midpoint of bid and ask, number of shares at a better price, last trade, trailing averages and any other formula that uses active market data to determine a price. The bid, ask and midpoint may include those prices determined by the NBBO (National Best Bid and Offer).*”

Thus, Applicant submits that the claim language possesses the clarity and precision required by 35 U.S.C. § 112, second paragraph, and that no further claim language is required under this section.

**Response to "NEW GROUNDS OF REJECTION #3 – 35 USC § 102"**

**Claims 1 & 34-35**

The Office added the following rejection under 35 U.S.C. § 102 (Office citations to Madoff et al. are inserted):

With regard to Claims 1 & 34-35, Maddoff teaches the method, apparatus and systems comprising:

receiving from a first party an order to trade a financial instrument at a predetermined distance and predetermined direction away from a market value of the financial instrument;  
(Claim 1, describing orders and responses that are "relative prices" and also Page 3, Para. 29, describing relative pricing, wherein price improvements are a particular price above or below, NBBO, a measure of market value. There are several examples throughout the specification, including Figure #2 and Page 3, Paras. 30-34)

[0029] Aspects of the auction system rely upon relative prices. These prices are relative to a standard, variable market price. One standard pricing mechanism used in the auction system 10 when auctioning stocks is The National Best Bid/offer (NBBO). The NBBO is a standardized quote in the securities industry for the national market systems best consolidated quotation. The National Best Bid/Offer is a quantifiable price to buy and sell. The NBBO is always changing and could change during the life of an order having an impact on the final price. The relative pricing mechanism uses the NBBO and a price improvement "pi" to produce relative prices. The "pi" enables an order to achieve the best price in the market at the current time. The provision of the price improvement relative to the NBBO or other standard market quote would tend to improve the execution price relative to the spread, i.e., the difference between bid and offer prices for any product or security. It also facilitates decimal denominated trading by enabling small price improvements of one (1) cent or even less.

[0030] Referring now to FIG. 2, an auction example 25a is shown. An order entry participant 12 (FIG. 1), e.g., a broker/dealer system 12a, for example, enters a customer order 30 to sell a certain number of shares, e.g., 500 shares of "XYZ" stock at the market. The order 30 is entered with an order type i.e., buy (B) or sell (S), the number of shares, name of security and an exposure time, e.g., 15 seconds and optional conditions. The National Best Bid Offer 32 (NBBO) is received by the automated auction system 20 for a price 125-125 (fraction 1/16). The National Best Bid Offer price at this time is only a starting reference price for the auction. In this example, the auction has a maximum life span of 15 seconds. The entry of the order 30 starts the auction. The auction ends, as soon as some response that meets the minimum qualifications of the order is received provided that the order is still actively exposed to the crowd.

[0031] Responses in the auction system 20 can include fixed price, relative price and predefined relative indications. Responses can have a lifespan, but preferably responses have no lifespan. That is, they are either immediately matched or canceled. The responses can be permitted to choose what types of orders they respond to. For example, there are two broad types of orders, public agency orders, e.g., a retail customer, or institutional customer. The second type is professional orders, e.g., professional traders or broker dealers trading for their own account.

[0032] In the example of FIG. 2, if broker/dealer B enters via a system 14a with a buy response 34 of a fixed variety, at 125.03 for 500 shares of "XYZ" and thereafter but within the exposure time, broker/dealer C enters, via another system 14a, a buy response 36 of a relative variety, at an NBBO +0.03 for 500 shares (which is 125 the NBB +\$0.03 a price improvement), the automated auction system 20 will execute the order between broker/dealer A and broker/dealer B since broker/dealer B's order met the qualifications of the auction and it arrived first. This example illustrates that if there are two responses to an order at the same effective price (i.e., either fixed as was response 34 or relative to the NBBO, as was response 36) the response first in time will be executed. In this example, the second response of broker/dealer C is not matched with the order for execution even if it was at a higher price, because the first response of broker/dealer C arrived first and satisfied the order in its entirety.



[0033] If there was a portion of the order left over, that is, the first broker/dealer's response 34 was for less than the initial order, then the second broker/dealer's response 36 would have a chance at any remainder. In that case, they could both execute. If, for a customer order to sell 800 shares of "XYZ" (not shown), broker/dealer B's response 34 to buy would result in a trade for 500 shares at broker/dealer B's price and broker/dealer C's response 36 would result in the remaining 300 shares at broker/dealer C's price which may be different.

[0034] As soon as the terms and conditions are fully met by a response, that response ends the auction. The automated auction system 20 is active for a maximum time of either the 15 seconds or 30 seconds that was chosen at the time of order entry. The automated auction system 20 also ends the auction for an order, if there were no pre-defined indications and no response that satisfied the order and any conditions attached to the order and chosen exposure time. Thereafter, if the order is not executed in the automated auction system 20, the order may be eligible for a market maker guarantee or sent for execution outside of the system. For example, the order may be entitled either a guarantee or execution elsewhere, as will be described below. The automated auction system 20 will forward the executions to the exchange for validation, trade reporting and clearance.

Applicant respectfully disagrees with Office and traverses this rejection for at least the following reasons. Nowhere in these Office-cited Madoff paragraphs does it mention relative pricing above or below NBBO. These paragraphs teach only price improvement inside the NBBO which is opposite to the invention which teaches discounts and premiums outside NBBO. Madoff teaches placing orders to receive price improvement for liquidity takers, and the invention teaches paying a "*predetermined price distance*" in exchange for an "*order*" to a liquidity taker. The teachings are opposite and do not overlap in any way.

The Office further states (Office citations to Madoff et al. are inserted):

upon acceptance of the order by a second party at a particular price, determining an updated market value of the financial instrument; and

(Once the order is matched, i.e. accepted, the actual price has to be determined by referring back to the NBBO. Thus if both the order and response are (NBBO + .05), to determine the actual trade price requires determining an updates value from NBBO. Please see Figure #5 and Paras. 42-43.)

completing the order only if the accepted price is at least the predetermined distance and the predetermined direction away from the updated market value.

(By definition, the orders in Maddoff are at least the distance and direction away from market value because the orders are executed after the updated market value is retrieved).

[0042] Referring now to FIG. 5, a fourth auction example 25d is shown. In this example 25d, a customer order 40' and condition 40a are entered to sell 600 shares of "XXY". The condition 40a is that the order seeks a specific minimum price improvement of "0.02". Thus, the order is at the market (i.e., at the national best bid NBB at the time of the order execution) plus a minimum price improvement of 2 cents. The exposure time is 15

seconds. The exposure does not reveal the 0.02 condition. This example is illustrative of a conditioned order within the example of two pre-defined relative indications.

[0043] In this auction example 25d, the customer order 40' seeks specific minimum price improvement. Broker/dealer B and broker/dealer C have each pre-defined relative indications 44', 46'. Broker/dealer B's pre-defined relative indication 44' improves the National Best Bid (NBB) by 5 cents. If the quote was 49-49 1/8 at the time the order from the crowd came in, broker/dealer B's indication 44' is based on a price of 49, the best bid, and thus broker B has a relative response of 49 plus \$0.05 for 1000 shares. Because broker/dealer B's pre-defined relative indication 44' satisfies the order and all conditions of the order, the order is matched with broker/dealer B response. Broker/dealer B buys the 600 shares at 49 plus \$0.05. Since broker/dealer B had a pre-defined indication 44 for a larger amount than the sell order of the customer, the order is filled completely, and broker/dealer B is left with a remaining predefined relative indication of 400 shares for future auctions. Broker/dealer C missed buying because broker/dealer C's predefined relative indication 46 was at a lower price than the predefined relative indication 44 of broker/dealer B. Broker/dealer C was only willing to pay the customer the best bid, not the best bid plus \$0.05. The automated auction system 20 will forward the executions to the exchange for validation, trade reporting and clearance.

Applicant respectfully disagrees with the Office and traverses this rejection for at least the following reasons. An “*updated market value*” in Madoff never occurs. Orders in Madoff are validated to make sure orders are contained at or within the NBBO. If the “orders” of the applicant’s invention were to be validated (in the same way they are in Madoff) at the “current” time they are matched, orders would become “executable” at any time by participants of the trading system. The invention would become inoperative because the invention’s orders would be subject to “sweeps.” One of the main goals of the invention is to prevent its orders from being executable at any time.

A “sweep” as defined by the NYSE:

Incoming marketable limit orders or market orders designated NX will automatically execute to the extent possible at the best bid or offer and sweep up (or down) to a price determined by the limit price of the order; an intervening LRP; or the price where there is sufficient, cumulative quantity to fill the order.

Madoff “validates” its matching process. To view this in more detail in (para 63 of Madoff):

The match process 108 attempts to find the pre-defined relative indication with the best price improvement, and that is the oldest in the auction system 20 at that price improvement and which satisfies all conditions of the order and validating constraints that may apply.

“Validating” is defined by Microsoft Word:

“to confirm or establish the truthfulness or soundness of something”

The applicant’s invention updates market value to see if market prices have changed after the matching process “event.”

“Update” is defined by Microsoft Word:

“to provide somebody or something with the most recent information, or with more recent information than was previously available”

Madoff does not teach what happens to the market after a matching process.

Referring to Paragraph 29 of Madoff it clearly states, “*The 'pi' enables an order to achieve the best price in the market at the current time.*” It is common knowledge to those skilled in the art that the term “current time” means the present. Thus, applicant’s invention is significantly different than Madoff at least because it adds a new step that updates market value after the execution step in Madoff.

The invention teaches two steps- 1<sup>st</sup> step, “*upon acceptance of an order at a particular price.*” This means a second party has made an agreement with the first party to accept a price. After this matching step occurs the next step is “*determining an updated market value of the financial instrument.*” This second step is crucial. It provides insurance to the first party that the second party did not simultaneously conduct any other trades at the exact time of the match with the first party.

Example: First party enters a limit order to buy 3200 shares of XYZ stock at \$.03 below the national best bid price.

400 shares at 80.02 National Best Bid  
1000 shares at 80.00 (.02 below market)  
3200 shares at 79.99 (.03 below market)

Second party places an order to sell 10,000 shares of XYZ at 79.99. With the current trading systems, this would result in fills for the second party at 80.02, 80.00 and 79.99, for a total fill of 4,600 shares. The remaining balance of 5,400 shares would become the new ask price of the NBBO at 79.99.

Did the first party's buy order of 3200 shares get a "*market price*" or a ".03 below market price" on his execution? The answer is the first party got a simple "market price" on his order even though at the "current" time of the first party's execution the bid price was .03 cents above his execution price. This is exactly what happens in Madoff. Madoff only guarantees that at the "current" time of execution the NBBO quote is a certain price not "after" the execution.

The invention is very different. If the invention is employed in this example, the first party would place his 3200 share buy order at \$.03 under the National Best Bid at 79.99. The 80.00 and 80.02 orders would remain traditional limit orders. The invention would execute the first party's order at 79.99 but after the execution the limit order at 80.02, representing the National Best Bid of the example and the 80.00 order, would remain intact. The invention "guarantees" to the first party that placed the 79.99 share order that after the matching of the orders, the National Best Bid remains "stable" and has not changed. The invention would prevent the second party from sweeping the order book down to 79.99, and require the second party to individually trade with the invention's 3200 share order placed at 79.99 before he grabbed the better priced orders. This would guarantee to the first party that the second party has no advantage to the "better priced" orders priced at 80.02 and 80.00. The second party would benefit from the trade because he would receive over twice as many shares as were available at 80.02 and 80.00 for a price cut of \$.03. The \$.03 price cut is like a fee that the first party collects as an incentive to the first party to provide the larger order to the market than would otherwise be available, see "Trading Opportunity Curve," as shown on Fig. 2 and described in paragraphs 20-36 of the applicant's specification. The markets benefit because the applicant's invention adds liquidity to the markets.

The invention matches orders at a price and then makes sure the NBBO has not been impacted by the "matching event." Only when it is verified that the second party did not route any simultaneous orders at the time of the match is the execution granted.

With Madoff, the execution is conditioned based on market prices at the exact time of the matching of the orders, while with the applicant's invention, the execution is conditioned based on stable market prices after the matching of the orders. The execution condition of Madoff and the invention are structurally different.

An additional note: due to latency of routers and communication networks of broker/dealers in their communications to the Madoff trading system, the data used in Madoff is inherently delayed. The applicant's invention "scans" the market for fresh data after the matching process. Para 89 Applicant's Specification:

"Upon acceptance of the order (step 700), the system scans the market to determine the updated market value of the underlying financial instrument"

The applicant's invention takes into account the data contained in it is delayed and scans the market to generate a new market value after the matching of the orders. By scanning the market after the match the applicant's invention guarantees that there has been no market manipulation during the matching process.

### **Claim 8**

The Office added the following rejection under 35 U.S.C. § 102:

With regard to Claim 8, Maddoff does not expressly teach the method wherein: the predetermined direction is below the market value of the financial instrument.

However, this is an inherent property of the system as disclosed, but not considered in any of the examples. Anyone of the orders could be an order for a negative off of NBBO.

Applicant respectfully disagrees with the Office and traverses this rejection for at least the following reasons. Madoff describes a trading system that prevents a user from trading outside the NBBO, because the order will "not pass validation." (Madoff paragraph 57.) The actual Madoff invention was built and operated for years 2002 and 2003 by Nasdaq. The

company is called Primex Holding L.L.C. The application of the invention is called "The Primex Auction." This company has a current web site at [www.primextrading.com](http://www.primextrading.com). On this website there is a complete description of the trading system together with several simple examples. The purpose and intent of the Madoff invention is expressed in plain language at this website. It is very clear as stated on their website that Primex Auction rejects limit orders placed above and below the market. The following was cut and pasted from <http://www.primextrading.com/happenings/views/>:

**\* Limit order to buy priced below best bid or limit order to sell priced higher than the best offer:**

1. Primex will not accept the order.

#### **Claim 9**

The Office made the following statement in connection with claim 9:

With regard to Claim 9, Maddoff does not expressly teach the method wherein:

the predetermined direction is above the market value of the financial instrument. (Figure #2 and Page 3, Paras. 30-34)

Applicant agrees with the Office that Madoff does not teach this limitation.

#### **Claim 12**

The Office added the following rejection under 35 U.S.C. § 102:

With regard to Claim 12, Maddoff teaches the method wherein:

market value is based on the midpoint of a bid and ask price. (Page 4, Para. 44)

Applicant respectfully disagrees with Examiner for at least the following reasons. In Madoff the midpoint of the NBBO is referenced in an example as an execution result. It is not

used as a function of the Madoff trading system to indicate market value. It is a result of a trade and not a trading function.

### **Claim 15**

The Office added the following rejection under 35 U.S.C. § 102 (Office citations to Madoff et al. are inserted):

With regard to Claim 15, Maddoff teaches the method wherein:

the second party accepts the order by clicking on a posting of the order over a network. (Page 2, Para. 22)

[0022] The networked auction system 10 includes an order entry side 12 comprised of any/all of broker/dealer systems 12a, electronic communication network (ECN) systems 12b and public participant systems 12c that enable members of the public to participate in the networked auction system 10 either directly, via the Internet, or indirectly, via the Internet or another communication medium, through a sponsor such as a broker/dealer. Each of the systems 12 allow the various participants to enter orders into an automated auction system 20. The order entry portion 12 of the networked auction system 10 can also include day trader systems 12d, institutional systems 12e, exchange specialists 12f, and option market makers 12g.

Applicant respectfully disagrees with Examiner.

“second party accepts the order” - Madoff is an auction system where the second party is not able to accept the order. They are merely able to make a bid that may or may not be accepted by the first party.

“clicking” - Madoff does not teach the clicking of an order. The matching process is an automated process occurring at the server.

“posting of an order over a network” - Madoff teaches the listing of symbol and shares for the purpose of soliciting outside bids in its auction process. To be a bona fide order in the traditional sense, an order must contain a visible listed price. Madoff does not teach listing or displaying a price in its orders.

### **Claim 16**

The Office added the following rejection under 35 U.S.C. § 102:

With regard to Claim 16, Maddoff teaches the method wherein:

completing the order includes executing the order at the accepted price. (Page 4, Para. 44)

Applicant respectfully disagrees with Examiner for at least the following reason. There is no accepted price taught in Madoff. An execution price in Madoff is generated by an automated process at the server which attempts to match orders based on best prices not accepted prices. There are no specific prices in Madoff but rather price ranges, e.g. "Execute my order at the bid price or better." The applicant's invention contains an "accepted price" for an execution which is agreed to by both the buyer and seller.

### **Claim 26**

The Office added the following rejection under 35 U.S.C. § 102 (Office citations to Madoff et al. are inserted):

With regard to Claim 26, Maddoff teaches the method wherein:

receiving at least one execution condition with the order; and completing the order only if the at least one execution condition is satisfied. (Page 2, Para. 27)

[0027] The automated auction system 20 matches orders with responses, other orders, and pre-defined relative indications of willingness to trade. Once an order is matched to a response, another order, or pre-defined relative indication, the match is considered a preliminary execution in the automated auction system 20. The preliminary execution is given to the market or exchange, as appropriate, so that the preliminary execution can be validated. If the preliminary execution is a good execution, it is validated and forwarded to a clearing corporation for clearance and settlement. For example, the exchange can validate that it is a good execution, consistent with the rules of the SRO and the Securities Exchange Commission (SEC) or equivalent regulatory authority and that there are no existing orders that could have been executed or that none of the parties are suspended from trading, and so forth. The exchange trade clearing 16 and reporting 18 are, in general, conventional, the manner that the automated auction system 20 would interface to the exchange trade clearing 16 and reporting 18 could be specified by the those systems.

Applicant respectfully disagrees with Examiner. Page 2, Paragraph 27 makes no mention of execution conditions other than that executions must be "*consistent with the rules of the SRO and the Securities Exchange Commission (SEC).*"

### **Response to "NEW GROUNDS OF REJECTION #4 – 35 USC § 103"**

The Office rejected dependent claims 6, 10-14, 18-22, 23-25 & 27-33 under 35 U.S.C. 103(a). Applicant respectfully submits that the action does not establish a *prima facie* case of obviousness for at least the reason that the teachings, suggestions or motivations provided by the action do not cure the deficiencies of Madoff (the 35 U.S.C. § 102 art) as explained above.



Further, in connection with the rejection of claim 6, Applicant respectfully requests clarification as to the identity of the Foley reference, which is not provided on the form PTO-892 or elsewhere in the action.

Lastly, in connection with the rejection of claims 10-14, 18-22, 23-25 & 27-33, the Office states that certain claim elements are considered as admitted prior art. While Applicant appreciates the Office's efforts to promote compact prosecution, Applicant respectfully traverses, on equitable grounds, the requirement that any non-traversed factual determination or legal conclusion of the Office, whether expressly stated or implied, be deemed an admission. Applicant provides arguments that are believed to be sufficient to overcome the pending rejections. Should any argument provided by Applicant not succeed in overcoming a pending rejection, Applicant reserves the right to raise any further argument at a later time. Notwithstanding the aforementioned, in the instant case the Office has no basis to deem any claim element as admitted prior art because Applicant's prior arguments compelled the Office to withdraw the prior rejections applied to these claims.

Accordingly, Applicant submits that all of the pending claims, independent and dependent, are non-obvious under 35 U.S.C. § 103.

**CONCLUSION**

It is respectfully submitted that, in view of the foregoing amendments and remarks, the application is in clear condition for allowance. Issuance of a Notice of Allowance is earnestly solicited.

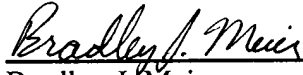
The Office is authorized to charge the two-month small entity extension of time fee of \$225.00 to Deposit Account No. 11-0600. A copy of this page is provided for this purpose.

Although not believed necessary, the Office is hereby authorized to charge any additional fees required under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayments to Deposit Account No. 11-0600.

The Examiner is invited to contact the undersigned at 202-220-4200 to discuss any matter regarding this application.

Respectfully submitted,

Dated: December 6, 2005

  
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